



EMSL Analytical, Inc. 200 Route 130 North, Cinnaminson, NJ 08077

Order ID: 281803015

Attn: Alex Green
S&R Environmental Consulting, Inc.
5801 Logan Street, #200
Denver, CO 80216

Customer ID: SREC85
Customer PO: 018013
Date Received: 07/06/18

Phone: (303) 297-1645
Project: **EPA – Floor 5 – Clearance**
Report Date: 07/09/18

EMSL Order: 281803015
EMSL Project ID:
Date Analyzed: 07/06/18

Test Report – 4-Phenylcyclohexene Analysis by GC/FID via Modified OSHA CSI Method

Sample ID	Identification	Sample Volume (L)	Sample Weight (µg)	Sample Conc. (µg/m ³)	Reporting Limit (µg/m ³)
281803015-0001	5-CL-4PCH	24	<0.030	<1.3	1.3
Desorption Blank	-	0	<0.030	ND	NA

Notes:

1. Samples were received in acceptable condition unless otherwise noted.
2. These results relate only to the samples tested.
3. Sample results are not blank corrected unless otherwise noted.
4. Discernable field blank(s) submitted with samples if reported above.

AS/VMD
Analyst

Scott VanEtten, CIH- Lab Manager
Or other approved signatory



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 /
<http://www.EMSL.com> / IndustrialHygienelab@emsl.com

EMSL Order ID: 281803016
Customer ID: SREC85
Customer PO: 018013
Project ID:

Attn: Alex Green
S&R Environmental Consulting, Inc.
5801 Logan Street, #200
Denver, CO 80216

Phone: (303) 297-1645
Fax: (303) 297-1646
Collected:
Received: 7/06/2018
Analyzed: 7/06/2018

Proj: EPA - Floor 5 - Clearance

Test Report: Formaldehyde Analysis by HPLC of Solid Sorbent Tubes via NIOSH 2016, Issue 2, 3/15/03 modified

Sample ID	Identification	Volume	Sample Weight	Sample Concentration		Reporting Limit
5-CL-FORM 281803016-0001		24 L	0.26 µg	0.011 mg/m ³	0.0087 ppm	0.0021 mg/m ³
Media Blank		N/A	<0.050 µg	<0.050 µg	N/A	N/A

N/A = Not Applicable

Analyst(s)

Alicia Shafer

Scott Van Etten, CIH, Laboratory Manager

Any questions please contact Scott VanEtten.

Initial report from: 07/09/2018 09:27:19

1. Samples were received in acceptable condition unless otherwise noted.
2. These results relate only to the samples tested.
3. Sample results are blank corrected. Reporting Limits for samples without volumes, such as Field Blanks, are 0.050 ug.
4. A discernable Field Blank was submitted if listed above as a discrete sample.

Samples analyzed by EMSL Analytical - Industrial Hygiene Cinnaminson, NJ AIHA-LAP, LLC--IHLAP Accred. Lab 100194

**EMSL Analytical**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856)858-4800 / (856)858-4571

<http://www.EMSL.com> to15lab@EMSL.comEMSL Order #: **491800613**Customer ID: **SREC85**Customer PO: **18013**

Attn: **Alex Green**
S&R Environmental Consulting, Inc.
5801 Logan Street, #200
Denver, CO 80216

Phone: **303-297-1645**Fax: **303-297-1646**Project: **EPA - 5th Floor**Date Collected: **7/5/2018**Date Received: **7/6/2018****Laboratory Report- Sample Summary**

EMSL Sample ID.	Client Sample ID.	Start Sampling Date	Start Sampling Time
491800613-0001	5-CL-T015	7/5/2018	9:30 AM

If "Preliminary Report" is displayed in the signature box; this indicates that there are samples that have not yet been analyzed, that are in a preliminary state, or that analysis is in progress but not completed at the time of report issue.

Report Date:
7/9/2018

Report Revision
R0

Revision Comments
Initial Report

Marjorie Howley, Laboratory Manager
or other approved signatory

Test results meet all NELAP requirements unless otherwise specified.
NJDEP Certification #: 03036

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The results are not blank corrected unless otherwise noted. Interpretation and use of test results are the responsibility of the client. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

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Denver, CO 80216

Phone: **303-297-1645**Fax: **303-297-1646**Project: **EPA - 5th Floor**Date Collected: **7/5/2018**Date Received: **7/6/2018****Laboratory Conformance/ Non-Conformance Summary**

For the following Samples: 491800613-0001

Samples met criteria as listed unless otherwise noted.

Sample Pressures/ Vacuums - Samples were received within acceptable range.

Holding Times (30 days) - Samples were analyzed within holding times.

BFB Tune - Samples were analyzed within 24 hours of an acceptable instrument tuning standard.

Surrogate Recoveries - Samples met surrogate recovery criteria.

Internal Standards - Samples met internal standard area/retention time criteria.

Initial Calibration - Initial Calibration criteria met method specification.

Initial Calibration Verification Standard (ICVS)- Second Source - ICVS met method specification with all compounds within 30% deviation. Individual compounds outside the method specification may be listed below.

Continuing Calibration Verification Standard (CCVS) - CCVS met method specification with all compounds within 30% deviation with the following exceptions: Chloromethane, Vinyl chloride and Chloroethane. Of these compounds only chloromethane was found in this sample; the results for this compound may be biased high.

Ending Calibration Verification Standard (ECVS) - ECVS met method specification with all compounds within 30% deviation with the following exceptions: Propene, Freons 12 and 114, Chloromethane, Butane, Vinyl Chloride, 1,3-Butadiene, Bromomethane and Chloroethane. Of these compounds Chloromethane and Butane were found in this sample; the results for this compound in the sample may be biased high.

Method Blanks (MB) - Method Blank met method specification with no compounds reported.

Instrument Blanks (IB) - No Instrument Blanks were analyzed.

Reporting Limit Laboratory Control Samples (RLLCS) - RLLCS did not meet method specification with 90% of compounds within the 60-140% recovery range. Individual compounds outside of the recovery range may be listed below. The same compounds failed high in the RLLCS as in the ECVS causing <90% of compounds not meeting criteria.

Additional Comments:**The following data qualifiers that may have been reported with the data.**

ND- Non Detect. This notation would be used in the results column in lieu of a "U" qualifier.

U- Compound was analyzed for but not detected at a listed and appropriately adjusted reporting level.

J- Estimated value reported below adjusted reporting limit for target compounds or estimating a concentration for TICs where a 1:1 response is assumed.

B- Compound found in associated method blank as well as in the sample.

E- Estimated value exceeding upper calibration range of instrument. Ethanol and isopropyl alcohol are not specifically targeted to dilute within calibration range.

D- Compound reported from additional diluted analysis.

N- indicates presumptive evidence of a compound based on library search match.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

Marjorie Howley, Laboratory Manager
or other approved signatory

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EMSL Order #: **491800613**
 EMSL Sample #: **491800613-1**
 Customer ID: **SREC85**
 Customer PO: **18013**

Attn: **Alex Green**
S&R Environmental Consulting, Inc.
5801 Logan Street, #200
Denver, CO 80216

Phone: **303-297-1645**
 Fax: **303-297-1646**
 Date Collected: **7/5/2018**
 Date Received: **7/6/2018**

Project: **EPA - 5th Floor**Sample ID: **5-CL-TO15**

<u>Analysis</u>	<u>Analysis Date</u>	<u>Analyst Init.</u>	<u>Lab File ID</u>	<u>Canister ID</u>	<u>Sample Vol.</u>	<u>Dil. Factor</u>
Initial	07/06/2018	mtb	P3390.D	E12323	298 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Propylene	115-07-1	42.08	ND	1.0		ND	1.7	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.50		ND	2.5	
Freon 114(1,2-Dichlorotetrafluoroethane)	76-14-2	170.9	ND	0.50		ND	3.5	
Chloromethane	74-87-3	50.49	0.81	0.50		1.7	1.0	
n-Butane	106-97-8	58.12	2.5	0.50		5.9	1.2	
Vinyl chloride	75-01-4	62.50	ND	0.50		ND	1.3	
1,3-Butadiene	106-99-0	54.09	ND	0.50		ND	1.1	
Bromomethane	74-83-9	94.94	ND	0.50		ND	1.9	
Chloroethane	75-00-3	64.52	ND	0.50		ND	1.3	
Ethanol	64-17-5	46.07	64	0.50	E	120	0.94	
Bromoethane(Vinyl bromide)	593-60-2	106.9	ND	0.50		ND	2.2	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.50		ND	2.8	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	4.0	0.50		10	1.2	
Freon 113(1,1,2-Trichlorotrifluoroethane)	76-13-1	187.4	ND	0.50		ND	3.8	
Acetone	67-64-1	58.08	7.1	0.50		17	1.2	
1,1-Dichloroethene	75-35-4	96.94	ND	0.50		ND	2.0	
Acetonitrile	75-05-8	41.00	1.2	0.50		1.9	0.84	
Tertiary butyl alcohol(TBA)	75-65-0	74.12	ND	0.50		ND	1.5	
Bromoethane(Ethyl bromide)	74-96-4	108.0	ND	0.50		ND	2.2	
3-Chloropropene(Allyl chloride)	107-05-1	76.53	ND	0.50		ND	1.6	
Carbon disulfide	75-15-0	76.14	ND	0.50		ND	1.6	
Methylene chloride	75-09-2	84.94	ND	0.50		ND	1.7	
Acrylonitrile	107-13-1	53.00	ND	0.50		ND	1.1	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.15	ND	0.50		ND	1.8	
trans-1,2-Dichloroethene	156-60-5	96.94	ND	0.50		ND	2.0	
n-Hexane	110-54-3	86.17	ND	0.50		ND	1.8	
1,1-Dichloroethane	75-34-3	98.96	ND	0.50		ND	2.0	
Vinyl acetate	108-05-4	86.00	ND	0.50		ND	1.8	
2-Butanone(MEK)	78-93-3	72.10	0.56	0.50		1.6	1.5	
cis-1,2-Dichloroethene	156-59-2	96.94	ND	0.50		ND	2.0	
Ethyl acetate	141-78-6	88.10	ND	0.50		ND	1.8	
Chloroform	67-66-3	119.4	ND	0.50		ND	2.4	
Tetrahydrofuran	109-99-9	72.11	ND	0.50		ND	1.5	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.50		ND	2.7	
Cyclohexane	110-82-7	84.16	ND	0.50		ND	1.7	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.50		ND	2.3	
Carbon tetrachloride	56-23-5	153.8	ND	0.50		ND	3.1	
n-Heptane	142-82-5	100.2	ND	0.50		ND	2.0	
1,2-Dichloroethane	107-06-2	98.96	ND	0.50		ND	2.0	
Benzene	71-43-2	78.11	ND	0.50		ND	1.6	
Trichloroethene	79-01-6	131.4	ND	0.50		ND	2.7	
1,2-Dichloropropane	78-87-5	113.0	ND	0.50		ND	2.3	
Methyl Methacrylate	80-62-6	100.12	ND	0.50		ND	2.0	
Bromodichloromethane	75-27-4	163.8	ND	0.50		ND	3.3	
1,4-Dioxane	123-91-1	88.12	ND	0.50		ND	1.8	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.50		ND	2.0	

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EMSL Order #: **491800613**
 EMSL Sample #: **491800613-1**
 Customer ID: **SREC85**
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Attn: **Alex Green**
S&R Environmental Consulting, Inc.
5801 Logan Street, #200
Denver, CO 80216

Phone: **303-297-1645**
 Fax: **303-297-1646**
 Date Collected: **7/5/2018**
 Date Received: **7/6/2018**

Project: **EPA - 5th Floor**

Sample ID: **5-CL-TO15**

<u>Analysis</u>	<u>Analysis Date</u>	<u>Analyst Init.</u>	<u>Lab File ID</u>	<u>Canister ID</u>	<u>Sample Vol.</u>	<u>Dil. Factor</u>
Initial	07/06/2018	mth	P3390.D	E12323	298 cc	1

Target Compound Results Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.50		ND	2.3	
Toluene	108-88-3	92.14	ND	0.50		ND	1.9	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.50		ND	2.3	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.50		ND	2.7	
2-Hexanone(MBK)	591-78-6	100.1	ND	0.50		ND	2.0	
Tetrachloroethene	127-18-4	165.8	ND	0.50		ND	3.4	
Dibromochloromethane	124-48-1	208.3	ND	0.50		ND	4.3	
1,2-Dibromoethane	106-93-4	187.8	ND	0.50		ND	3.8	
Chlorobenzene	108-90-7	112.6	ND	0.50		ND	2.3	
Ethylbenzene	100-41-4	106.2	ND	0.50		ND	2.2	
Xylene (p,m)	1330-20-7	106.2	ND	1.0		ND	4.3	
Xylene (Ortho)	95-47-6	106.2	ND	0.50		ND	2.2	
Styrene	100-42-5	104.1	ND	0.50		ND	2.1	
Isopropylbenzene (cumene)	98-82-8	120.19	ND	0.50		ND	2.5	
Bromoform	75-25-2	252.8	ND	0.50		ND	5.2	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.50		ND	3.4	
4-Ethyltoluene	622-96-8	120.2	ND	0.50		ND	2.5	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.50		ND	2.5	
2-Chlorotoluene	95-49-8	126.6	ND	0.50		ND	2.6	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.50		ND	2.5	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.50		ND	3.0	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.50		ND	3.0	
Benzyl chloride	100-44-7	126.0	ND	0.50		ND	2.6	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.50		ND	3.0	
1,2,4-Trichlorobenzene	120-82-1	181.5	ND	0.50		ND	3.7	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.50		ND	5.3	
Naphthalene	91-20-3	128.17	ND	0.50		ND	2.6	

Total Target Compound Concentrations:

80 ppbv 160 ug/m3

Surrogate

4-Bromofluorobenzene

Result

9.3

Spike

10

Recovery

93%

Qualifier Definitions

ND = Non Detect

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

Method Reference

USEPA: Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

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EMSL Order #: **491800613**
EMSL Sample #: **491800613-1**
Customer ID: **SREC85**
Customer PO: **18013**

Attn: **Alex Green**
S&R Environmental Consulting, Inc.
5801 Logan Street, #200
Denver, CO 80216

Phone: **303-297-1645**
Fax: **303-297-1646**
Date Collected: **7/5/2018**
Date Received: **7/6/2018**

Project: **EPA - 5th Floor**Sample ID: **5-CL-TO15**

<u>Analysis</u>	<u>Analysis Date</u>	<u>Analyst Init.</u>	<u>Lab File ID</u>	<u>Canister ID</u>	<u>Sample Vol.</u>	<u>Dil. Factor</u>
Initial	07/06/2018	mtb	P3390.D	E12323	298 cc	1

Total Volatile Organic Compounds (TVOC) Summary

Target Compounds	CAS#	MW	Result ppbv	RL ppbv	Q	Result ug/m3	RL ug/m3	Comments
Chloromethane	74-87-3	50.49	0.81	0.50		1.7	1.0	
n-Butane	106-97-8	58.12	2.5	0.50		5.9	1.2	
Ethanol	64-17-5	46.07	64	0.50	E	120	0.94	
Isopropyl alcohol(2-Propanol)	67-63-0	60.10	4.0	0.50		10	1.2	
Acetone	67-64-1	58.08	7.1	0.50		17	1.2	
Acetonitrile	75-05-8	41.00	1.2	0.50		1.9	0.84	
2-Butanone(MEK)	78-93-3	72.10	0.56	0.50		1.6	1.5	

Total Target Compound Concentrations: **80 ppbv** **160 ug/m3**

Qualifier Definitions

B = Compound also found in method blank.

E= Estimated concentration exceeding upper calibration range.

D= Result reported from diluted analysis.

Tentatively Identified Compounds	CAS#	MW(1)	Result ppbv		Q	Result ug/m3	Retention Time	Comments
Ethane, 1,1-difluoro-	000075-37-6	66	1.9		JN	5.0	5.23	
Unknown		92	2.3		JN	8.7	5.74	
Unknown		92	2.0		JN	7.4	7.86	

Total TIC Concentrations: **6.2 ppbv** **21 ug/m3**

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for ug/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

Total Volatile Organic Compounds (TVOCs): **86 ppbv** **180 ug/m3**



External Chain of Custody/ Field Test Data Sheet

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Ph. (800) 220-3675
Fax (856) 786-0327

Report To Contact Name: Alex Green Company Name: S&P Environmental Address 1: 5801 Logan St. #200 Address 2: Phone No.: 303-548-1175 Fax: Email Results To: alex@spenvironmental.com/for results Turnaround Time (in Business Days): <input type="checkbox"/> 4 Day <input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> 1 Day <input type="checkbox"/> 2 Day		EMSL Order Number (Lab Use Only): 491800613 Bill To Company: Attention To: SAME Address 1: Address 2: Phone No.: Fax: Project Name: EPA - 5th Floor Reporting Format: <input type="checkbox"/> Results Only (Standard Lab Report) <input type="checkbox"/> Full Deliverables (Surcharge may apply) <input type="checkbox"/> Other	
Field Use - All Information Required!		Lab Use Only	
Sampling Start Information		Canister Information	
Barometric Pres. ("Hg):		Flow Controller	
Client Field Sample Identification	Start Date 7/6/18 9:30 Time (24 hr clock) 9:30 Interior Temp. (F) 72 Canister Pressure ("Hg) 0 Time (24 hr clock) 15:30 Interior Temp. (F) 72	Size (L) 3608 Can Cert Batch ID 29.2-4.8 Incoming Pressure ("Hg) 29.2-4.8 Outgoing Pressure ("Hg) 29.2-4.8 Reg. ID 8063/21.2	Cal Flow (g/min) Reg. ID
Sampling Stop Information		Matrix	
Barometric Pres. ("Hg):		Analysis	
SEPA TO-15 <input checked="" type="checkbox"/> USEPA TO-15 <input checked="" type="checkbox"/> LIBRARY SEARCH <input checked="" type="checkbox"/> Other (Specify)		Indoor/ Ambient Air <input checked="" type="checkbox"/> Soil Gas <input type="checkbox"/> Landfill/ Vent <input type="checkbox"/>	
Comments:		Lab Canister Certification	
Relinquished by: [Signature] Date/ Time 6/20/18/1620		Lab Analyst Signature (TO-15):	
Received by: [Signature] Date/ Time 7/6/18		Reason for Exchange (circle appropriate)	
Shipping <input checked="" type="checkbox"/> Courier <input checked="" type="checkbox"/> Receiving <input checked="" type="checkbox"/> Sampling <input checked="" type="checkbox"/> Other:		Shipping <input checked="" type="checkbox"/> Courier <input checked="" type="checkbox"/> Receiving <input checked="" type="checkbox"/> Sampling <input checked="" type="checkbox"/> Other:	
Shipping <input checked="" type="checkbox"/> Courier <input checked="" type="checkbox"/> Receiving <input checked="" type="checkbox"/> Sampling <input checked="" type="checkbox"/> Other:		Shipping <input checked="" type="checkbox"/> Courier <input checked="" type="checkbox"/> Receiving <input checked="" type="checkbox"/> Sampling <input checked="" type="checkbox"/> Other:	

491800613

RECEIVED
EMSL
CINNAMINSON, N.J.TO-FM-12 Sample Information
Revision 9
Effective Date: January 22, 2018TO-15 Sample Information **2018 JUL 16 A 9:51**

Please fill out this worksheet in addition to the Chain of Custody form. This information helps us to best analyze your samples, achieve requested TAT, and provide you with helpful Interpretation Information.

Company: **S&R ENVIRONMENTAL CONSULTING**

Contact Person:

Name: **ALEX GREEN**
 E-mail: **ALEX@SARENMENTALCONSULTING.COM**
 Additional E-mails:
 Telephone #: **303-297-3965**

Library Search requested:

☒ YES ☐ NO

A library search (aka Tentatively Identified Compounds) will identify up to 20 of the largest, non-target peaks that are not part of the standard TO-15 list of 74 compounds. If you are performing an Indoor Air Quality or odor investigation, the library search is recommended to provide you with all available information for your sample.

Sample Type:

☒ Indoor Air Quality (Home/Office)☐ Soil Gas/Sub Slab☐ IAQ (Industrial)☐ Other:

Sample Description: _____

PLEASE NOTE: The result forms we provide will not indicate whether your results have exceeded any Exposure Limit criteria established by any regulatory agency. If you would like that information, please check off below which regulatory comparison forms you would like to receive.

- | | | |
|---|-----------------------------|--|
| <input type="checkbox"/> OSHA PELs/NIOSH RELs | combined form | <input type="checkbox"/> Potential Sources of Compounds found in your IAQ sample |
| <input type="checkbox"/> EPA RSLs - 11/2017 | Residential Industrial | <input checked="" type="checkbox"/> TVOC (Library Search Required for this format) |
| <input type="checkbox"/> NJ DEP 1/2018 - Circle one: | VI-Indoor AQ VI-Soil Gas | <input type="checkbox"/> Ohio 4/2013 - Circle one: Residential Commercial |
| <input type="checkbox"/> NC DENR 4/2014 - Circle one: | Residential Non-residential | <input type="checkbox"/> Indiana Dept Env Mgmt Screening Levels 2/2016 |
| <input type="checkbox"/> PA DEP - 11/2016 | Indoor Air | <input type="checkbox"/> Vermont DEP IROCP 4/2012 (soil gas only) |
| <input type="checkbox"/> PA DEP- 11/2016: Sub Slab Soil Gas OR Near Source Soil Gas | | <input type="checkbox"/> California OEHHA 2/2012 |
| <input type="checkbox"/> CA HHSL 11/2004 - Circle one: | Indoor Air Soil Gas | <input type="checkbox"/> Other; these are the compounds I want reported: |

Please note: There is an additional charge for any of the tests below. USEPA TO-3 AND ASTM 5504 analyses can be performed from your canister at the Cinnaminson NJ Laboratory.

US EPA TO-3 via GC/HD (choose one below):

ASTM-D5504 via GC/SCD (choose one below):

☐ C₁-C₈ hydrocarbons☐ Sulfur Scan (H₂S, COS, MeSH, EtSH, DMS)☐ Methane only☐ H₂S only

***Note:** Hold time for sulfur gases is 1 day from collection. Please schedule your sample collection so samples are received in the lab prior to noon on Friday. Analysis performed out of hold time will have a notation in the report.

We can provide the following CMS tests from your canisters at the Cinnaminson and Huntington Beach laboratories. Please note these tests are to be used for IAQ/Screening purposes ONLY. EMSL recommends alternate field sampling techniques for these parameters (with the exception of water vapor); please contact your sales rep for the proper media. Please note: There is an additional charge for any of the tests below.

Dragger CMS Analyzer:

☒ CO ☒ CO₂ ☐ NH₃ ☐ O₂ ☐ Water Vapor

Sample Retention Policy: All canisters are guaranteed to be retained for one day after results are reported. Please review your results promptly to ensure your project scope is fully addressed. Cans may be retained for a longer period of time, but arrangements to hold your cans must be made through your customer account representative quickly. Thank you.



EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077

EMSL Order ID: 491800613

Attn: Alex Green
S&R Environmental Consulting, Inc.
5801 Logan Street, #200
Denver, CO 80216

Customer ID: SREC85

Date Received: 7/6/2018

Project: EPA 5th Floor

Report Date: 7/9/2018

Data Analyzed: 7/6/2018

Fixed Gas Analysis by Using The Draeger CMS (Chip Measurement System)

Sample ID	Identification	Compound	Detection Limit (ppmV)	Sample Result (ppmV)
491800613-1	5-CL-TO15	Carbon Monoxide	6.0	<6.0
491800613-1	5-CL-TO15	Carbon Dioxide	240	390

K. Wolkowicz
Analyst

Marge Howley
Lab Manager



EMSL ANALYTICAL, INC.
LABORATORY - 200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077

Industrial Hygiene Chain of Custody

EMSL Order Number (Lab Use Only):

-281803016

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 858-3502

Report To Contact Name: <u>Alex Green</u>	Bill To Company: <u>same</u>	Client ID #:
Company Name: <u>S&R Environmental Consulting</u>	Attention To:	
Street: <u>5801 Logan St. #200</u>	City:	State/Province:
City: <u>Denver</u>	State/Province: <u>CO</u>	Zip/Postal Code: <u>80216</u>
Phone: <u>303-548-1175</u>	Fax:	
Project Name: <u>EPA - Floor 5 - Clearance</u>	Email Results To: <u>alex@sr-env.com</u>	U.S. State where Samples Collected: <u>CO</u>
# Samples in Shipment: <u>2 AT</u>	Date of Shipment: <u>7/6/18</u>	Sampled By (Signature): <u>[Signature]</u>

Turnaround Time (TAT) - Please Check: If No Selection Made, Standard 2 Week TAT Will Apply				Media Type: <u>Vials</u>	Lot #:
<input type="checkbox"/> 2 Week	<input type="checkbox"/> 1 Week	<input type="checkbox"/> 4 Day	<input checked="" type="checkbox"/> 3 Day	Day	Other (Call Lab)
Purchase Order: <u>018013</u>				Manufacturer/Part #:	

Client Sample ID	Location/Description	Analyte / Method	Media	Flow (lpm)	Sample Time On	Sample Time Off	Volume / Area	Sample Type	Sample Date	Comments
<u>5-CL-4PCH</u>	<u>[Redacted]</u>	<u>OSHA - CS1</u>	<u>[Redacted]</u>				<u>2.4 L</u>	<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal	<u>7/9/18</u>	
<u>5-CL-FORM</u>	<u>[Redacted]</u>	<u>NIOSH 2016</u>	<u>[Redacted]</u>				<u>2.4 L</u>	<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal	<u>7/9/18</u>	
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		
								<input type="checkbox"/> Area <input type="checkbox"/> Personal		

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By: <u>[Signature]</u>	Date: <u>7/6/18</u>	Received By: <u>Sub</u>	Date: <u>7/6/18</u>
Comments:		<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">2</div>	

**Industrial Hygiene
Chain of Custody**
EMSL Order Number (Lab Use Only):
-281803015

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 858-3502

Turnaround Time (TAT) - Please Check: If No Selection Made, Standard 2 Week TAT Will Apply					Media Type: <i>1/2 c100</i>
<input type="checkbox"/> 2 Week	<input type="checkbox"/> 1 Week	<input type="checkbox"/> 4 Day	<input type="checkbox"/> 3 Day	<input type="checkbox"/> Day	Manufacturer/Part #:
				<input checked="" type="checkbox"/> 1 Day	Lot #:
				<input type="checkbox"/> Other (Call Lab)	

[illegible]

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By	Date	Received By	Date
<i>[Signature]</i>	7/6/18	<i>[Signature]</i>	7/6/18
Comments:			
2			



EMSL Order Number (Lab Use Only):

USEPA TO-15

External Chain of Custody/ Field Test Data Sheet

49180613

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Ph. (800) 220-3675
Fax (856) 786-0327

[illegible]

-491800613

RECEIVED
EMSL
CINNAMINSON, N.J.

TO-15 Sample Information
Revision 9
Effective Date: January 22, 2018

TO-15 Sample Information

Please fill out this worksheet in addition to the Chain of Custody form. This information helps us to best analyze your samples, achieve requested TAT, and provide you with helpful interpretation information.

Company:	S&R Environmental Consulting
Contact Person:	
Name:	Alex Green
E-mail:	Alex@S&REnvironmentalConsulting.com
Additional E-mail:	
Telephone #:	303-297-3965

Library Search requested:

A library search (aka Tentatively Identified Compounds) will identify up to 20 of the largest, non-target peaks that are not part of the standard TO-15 list of 74 compounds. If you are performing an Indoor Air Quality or odor investigation, the library search is recommended to provide you with all available information for your sample.

Sample Type:

- ☒ Indoor Air Quality (Home/Office)
☐ IAQ (Industrial)
☐ Other:

☐ Soil Gas/Sub Slab

Sample Description:

PLEASE NOTE: The result forms we provide will not indicate whether your results have exceeded any Exposure Limit criteria established by any regulatory agency. If you would like that information, please check off below which regulatory comparison forms you would like to receive.

- | | |
|--|--|
| <input type="checkbox"/> OSHA PELs/NIOSH RELs combined form | <input type="checkbox"/> Potential Sources of Compounds found in your IAQ sample |
| <input type="checkbox"/> EPA RSLs - 11/2017 Residential Industrial | <input checked="" type="checkbox"/> TVOC (Library Search Required for this format) |
| <input type="checkbox"/> NJ DEP 4/2018 - Circle one: VI-Indoor AQ VI-Soil Gas | <input type="checkbox"/> Ohio 4/2018 - Circle one: Residential Commercial |
| <input type="checkbox"/> NC DENR 4/2014 - Circle one: Residential Non-residential | <input type="checkbox"/> Indiana Dept Env Mgmt Screening Levels 2/2018 |
| <input type="checkbox"/> PA DEP - 11/2018 Indoor Air | <input type="checkbox"/> Vermont DEP IROCP 4/2012 (soil gas only) |
| <input type="checkbox"/> PA DEP - 11/2016: Sub Slab Soil Gas OR Near Source Soil Gas | <input type="checkbox"/> California CEHHA 2/2012 |
| <input type="checkbox"/> CA HHS 11/2004 - Circle one: Indoor Air Soil Gas | <input type="checkbox"/> Other: these are the compounds I want reported: |

Please note: There is an additional charge for any of the tests below. USEPA TO-3 AND ASTM 5504 analyses can be performed from your canister at the Cinnaminson NJ Laboratory.

USEPA TO-3 via GC/NO (choose one below):

- ☐ C₁-C₆ hydrocarbons
☐ Methane only

ASTM-D5504 via GC/SCO (choose one below):

- ☐ Sulfur Scan (H₂S, COS, MeSH, EtSH, DMS)
☐ H₂S only

***Note:** Hold time for sulfur gases is 1 day from collection. Please schedule your sample collection so samples are received in the lab prior to noon on Friday. Analysis performed out of hold time will have a notation in the report.

We can provide the following CMS tests from your canisters at the Cinnaminson and Huntington Beach laboratories. Please note these tests are to be used for IAQ/Screening purposes ONLY. EMSL recommends alternate field sampling techniques for these parameters (with the exception of water vapor); please contact your sales rep for the proper media. Please note: There is an additional charge for any of the tests below.

Draeger CMS Analyzer:

- ☒ CO ☒ IAQ ☐ NH₃ ☐ O₂ ☐ Water Vapor

Sample Retention Policy: All canisters are guaranteed to be retained for one day after results are reported. Please review your results promptly to ensure your project scope is fully addressed. Cans may be retained for a longer period of time, but arrangements to hold your cans must be made through your customer account representative quickly. Thank you.



**Wisconsin Occupational
Health Laboratory**
WISCONSIN STATE LABORATORY OF HYGIENE
UNIVERSITY OF WISCONSIN-MADISON

2601 Agriculture Drive
Madison, WI 53718
Phone: (800) 446-0403
Fax: (608) 224-6213
Web: wohl-lab.org

ALEX GREEN
S & R ENVIRONMENTAL CONSULTING
STE 200
5801 LOGAN ST
DENVER, CO 80216

Lab Workorder ID 392403
Visit/Project ID EPA / BOOTS
PO 018013
Received July 6, 2018
Reported July 13, 2018
Report ID 5497857
Previous Report IDs

Dear ALEX GREEN:

Enclosed are the analytical results for sample(s) received by the laboratory on July 6, 2018. All samples received were acceptable, results were not blank corrected, and all quality control met laboratory standards unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact the lab.

Sincerely,

Steve Strebel, Laboratory Director

Analyst - JOHN GLOWACKI

Final Report

Lab ID: **392403001**

Sample ID: **5-CL-CAP**

Media: **OVS-7 TUBE**

Sampling Date: **7/5/2018**

Matrix: **Air**

Sampled Time:

Laboratory Control Spike failed with 74.8% recovery. The low control limit for this spike is 77.2%

RESULT

Analyte	Method	Analysis Date	Air Volume	Reporting Limit	Front	Rear	Total	Air Concentration	TWA
Caprolactam (Dust and Vapor)	OSHA PV2012	7/12/2018	100 L	1.5 ug	<1.5 ug	<1.5 ug	<1.5 ug	<0.015 mg/m3	

Abbreviations:

mg = milligrams

ppm or ppmv = parts per million

/m3 = per cubic meter

ug = micrograms

ppb or ppbv = parts per billion

ng = nanograms

< Less Than. The analyte, if present, is at a level too low to be accurately quantitated by the method used

End of Analytical Report

The results in this report apply only to the samples, specifically listed above, and tested at the Wisconsin Occupational Health Laboratory

This report is not to be reproduced except in its entirety



12421 W. 49TH AVENUE, UNIT #6
WHEAT RIDGE, CO 80033 - (303) 463-8270

NUISANCE DUST - TOTAL/RESPIRABLE
NIOSH 0500/0600 METHOD(S) - PAGE 1 OF 1

CLIENT:
S&R ENVIRONMENTAL CONSULTING
5801 LOGAN STREET, SUITE 200
DENVER, CO 80216

ANALYSIS DATE: 7-6-18
REPORTING DATE: 7-9-18
RECEIPT DATE: 7-6-18
CLIENT JOB NO.: 018013
PROJECT TITLE: EPA - 5TH FLOOR
DCMSL PROJECT: SREC696

DCM NO.	CLIENT NUMBER	VOLUME (L)	DUST (1) (mg)	NUISANCE DUST
				TOTAL/RESPIRABLE (1) (mg/m3)
-1R	175564/5-CL-TD	200	<0.001	<0.001
-2R	175568/5-CL-RD	100	<0.001	<0.001

(1) DUST IS CONSIDERED RESPIRABLE BASED ON SAMPLING METHOD. SAMPLES MUST BE COLLECTED USING A CYCLONE DEVICE.

THE SAMPLES WERE ANALYZED USING THE NIOSH 0500/0600 METHOD(S). PREWEIGHED FILTERS WERE POST WEIGHED TO DETERMINE TOTAL NUISANCE DUST COLLECTED ON THE FILTERS. THE COEFFICIENT OF VARIATION OF THIS METHOD AS STATED BY NIOSH 0500 IS 0.043 TO 0.145 FOR A RANGE OF 0.30mg TO 2.00mg PER SAMPLE. THE RANGE STUDIED IN THIS METHOD IS 0.5 TO 10mg/m3.

THE SAMPLES WERE WEIGHED WITH A METTLER XP56 ANALYTICAL MICROBALANCE WITH A REPORTING LIMIT OF ± 0.006 mg. THE BALANCE IS CERTIFIED TO BE WITHIN INSTRUMENT SPECIFICATIONS AND TRACEABLE TO NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

NO BLANK WAS SUBMITTED BY THE CLIENT. THE RESULTS ARE NOT BLANK CORRECTED.

THE SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION. THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED. THIS REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.



LORI WOOD, ANALYST

(303) 463-8270 / (800) 852-7340
(303) 463-8267 – fax

Date/Time Received _____ DCMSL Group No. _____ DCMSL Log No. _____

Field Data Sheet/Chain of Custody

Samples Submitted By: AJR S&R Enviro
Company: _____
Address: _____

Job/P.O. # 018013

Project Title EPA - 5th Floor

Contact: Alex Green
Phone: _____
Cell: 303-548-1175
Email: to Alex

Archive: Asbestos samples are archived for 6 months
unless other arrangements are made. All other samples
are archived for 3 months.

Turnaround Time Requested:

☐ Standard (3 to 5 Business Days)
☒ 24 Hour Rush

☐ 2 Hour Rush (Asbestos Only)
☐ Other _____

Procedure Requested:

ASBESTOS

Bulk ☐ Standard EPA
☐ Progressive
☐ Point Count
☐ Other
Air ☐ NIOSH 7400
☐ OSHA ID-160
☐ Other

DUST & SILICA

☐ Silica – Air NIOSH 7500
☐ Silica – Bulk
☐ Silica – Bulk Respirable
☒ Dust – NIOSH 0500/0600

Other Analysis: RD = NIOSH 0600
TD = NIOSH 0500

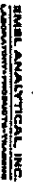
OTHER SERVICES

☐ Optical Microscopy
☐ X-ray Diffraction – Scan/Search
☐ X-ray Diffraction – Clay/Bulk
☐ SEM

Client Sample No.:	Sample Date	Air Volume	Other Information
1 <u>5-CL-RD</u>	<u>7/5/18</u>	<u>200</u>	<u>5th Floor</u>
2 <u>5-CL-TD</u>	<u>11</u>	<u>100</u>	<u>1</u>
3 _____	_____	_____	_____
4 _____	_____	_____	_____
5 _____	_____	_____	_____
6 _____	_____	_____	_____
7 _____	_____	_____	_____
8 _____	_____	_____	_____
9 _____	_____	_____	_____
10 _____	_____	_____	_____

Relinquished By: [Signature] Date/Time 7/6/18

Received By: [Signature] Date/Time 7/6/18 11:30



EMSL Order Number (Lab Use Only):

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Ph. (800) 220-3675
Fax (856) 786-0327

[illegible]

TO-15 Sample Information

Please fill out this worksheet in addition to the Chain of Custody form. This information helps us to best analyze your samples, achieve requested TAT, and provide you with helpful interpretation information.

Company: S&R Environmental Consulting

Contact Person:

Name: Alex Green

E-mail: Alex@saenvironmentalconsulting.com

Additional E-mails:

Telephone #: 303-297-3965

Library Search requested:

☒ YES ☐ NO

A library search (aka Tentatively Identified Compounds) will identify up to 20 of the largest, non-target peaks that are not part of the standard TO-15 list of 74 compounds. If you are performing an Indoor Air Quality or odor investigation, the library search is recommended to provide you with all available information for your sample.

Sample Type:

☒ Indoor Air Quality (Home/Office)

☐ Soil Gas/Sub Slab

☐ IAQ (Industrial)

☐ Other:

Sample Description:

PLEASE NOTE: The result forms we provide will not indicate whether your results have exceeded any Exposure Limit criteria established by any regulatory agency. If you would like that information, please check off below which regulatory comparison forms you would like to receive.

☐ OSHA PELs/NIOSH RELs

combined form

☐ Potential Sources of Compounds found in your IAQ sample

☐ EPA RSLs - 11/2017

Residential Industrial

☒ TVOC (Library Search Required for this format)

☐ NJ DEP 1/2018 - Circle one:

VI-Indoor AQ VI-Soil Gas

☐ Ohio 4/2013 - Circle one: Residential Commercial

☐ NC DENR 4/2014 - Circle one:

Residential Non-residential

☐ Indiana Dept Env Mgmt Screening Levels 3/2016

☐ PA DEP - 11/2016

Indoor Air

☐ Vermont DEP IROCP 4/2012 (soil gas only)

☐ PA DEP - 11/2016: Sub Slab Soil Gas OR Near Source Soil Gas

☐ California OEIIIA 2/2012

☐ CA HHSL 11/2004 - Circle one:

Indoor Air Soil Gas

☐ Other: these are the compounds I want reported:

Please note: There is an additional charge for any of the tests below. USEPA TO-3 AND ASTM D5504 analyses can be performed from your canister at the Cinnaminson NJ Laboratory.

USEPA TO-3 via GC/MS (choose one below):

ASTM-D5504 via GC/MS (choose one below):

☐ C₁-C₈ hydrocarbons

☐ Sulfur Scan (H₂S, COS, MeSH, EtSH, DMS)

☐ Methane only

☐ H₂S only

***Note:** Hold time for sulfur gases is 1 day from collection. Please schedule your sample collection so samples are received in the lab prior to noon on Friday. Analysis performed out of hold time will have a notation in the report.

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Dräger CMS Analyzers:

☒ CO ☒ CO₂ ☐ NH₃ ☐ O₂ ☐ Water Vapor

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Industrial Hygiene Chain of Custody

EMSL Order Number (Lab Use Only):

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 856-3502

EMSL ANALYTICAL, INC.
LABORATORY ANALYTICAL SERVICES

Report To Contact Name:	Mex Green	Bill To Company:	SAME	Client ID #:				
Company Name:	S&R Environmental Consulting	Attention To:	SAME					
Street	5801 Logan St. #200	Street						
City:	DENVER	State/Province:	CO	Zip/Postal Code:	80216			
Phone :	303-548-1175	Fax:						
Project Name:	EPA - Floor 5 - Clearance	Email Results To:	mex@stevenson.com	U.S. State where Samples Collected:	Co			
# Samples in Shipment:	2	Date of Shipment:	7/6/18	Purchase Order:	013013			
		Sampled By (Signature):	[Signature]	Consent Form				
Turnaround Time (TAT) - Please Check: If No Selection Made, Standard 2 Week TAT Will Apply	<input type="checkbox"/> 2 Week <input type="checkbox"/> 1 Week <input type="checkbox"/> 4 Day <input type="checkbox"/> 3 Day	Day	<input checked="" type="checkbox"/> 1 Day <input type="checkbox"/> Other (Call Lab)	Media Type:	Vials			
Client Sample ID	Location/Description	Analyte / Method	Media	Flow (lpm)	Volume / Area	Sample Type	Sample Date	Comments
5-CL-4PCH		OSHA - CSI	Sealed bag		24 L	<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal	7/9/18	
5-CL-FORM		NIOH 2016	''		24 L	<input checked="" type="checkbox"/> Area <input type="checkbox"/> Personal		
						<input type="checkbox"/> Area <input type="checkbox"/> Personal		
						<input type="checkbox"/> Area <input type="checkbox"/> Personal		
						<input type="checkbox"/> Area <input type="checkbox"/> Personal		
						<input type="checkbox"/> Area <input type="checkbox"/> Personal		
						<input type="checkbox"/> Area <input type="checkbox"/> Personal		
						<input type="checkbox"/> Area <input type="checkbox"/> Personal		
						<input type="checkbox"/> Area <input type="checkbox"/> Personal		
						<input type="checkbox"/> Area <input type="checkbox"/> Personal		

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By [Signature] Date 7/6/18 Received By _____ Date _____

Comments: _____

See Sample Receiving Record